CONCLUSIONS

Based on the results of our review of the available information, and input from the CSVAT, the near-term market potential for commercial utilization of the ISS for long-duration human-tended microgravity R&D is limited. Low levels of commercial sector interest, long lead times, unpredictable scheduling of payloads, and high integration and launch costs continue to inhibit significant market demand at this early stage of the ISS program.

Opportunities for commercial activity in the areas of entertainment, education and advertising may be significant in the near-term. While these areas are not traditionally considered part of the core science and technology mission of the ISS, they do offer a potential near-term revenue stream that can be used to offset other ISS costs. This will increase awareness of the ISS among the intended user communities and would likely act as a catalyst to stimulate other commercial utilization of ISS over time.

Even if the impediments identified in this study are overcome through a joint effort by NASA and industry, there is no guarantee that the ISS will see full paid commercial use of the 30% resource allocation as offered by NASA. It is clear however, that failing to resolve these impediments will most likely inhibit any significant commercial activity from developing on the ISS in the foreseeable future. As these impediments are resolved, commercial demand may justify the predictions of those who support commercialization as a primary goal of the ISS. Just as it would have been extremely difficult to predict the growth of the Internet and World Wide Web prior to 1994, it is improbable to accurately assess the level of impact an enabling technology such as the ISS could provide to the private sector.

In order for NASA to eventually meet its commercialization goals on the ISS, an independent asset manager should be considered to manage the commercial interests of the ISS including ground operations, transportation, and orbital transfer of commercial cargo. This entity must necessarily enable both the capture of non-traditional sources of revenue (e.g. entertainment, education and advertising) and maximize the commercial utilization of the ISS R&D capabilities.

The independent entity will be required to promote and develop awareness of the ISS and space-related opportunities to a larger user community across a range of industries. Only by establishing and actively promoting the ISS competitive advantages will the true value to Industry of its resources and capabilities be realized. Due to the need for international agreement and collaboration on the use of the ISS for advertising, sponsorship, licensing, and even R&D, the independent entity responsible for managing the ISS must also be able to deal effectively with the other partners in resource allocation and other issues as they arise.

In the long term, significant demand may be generated by the private sector for ISS capabilities. Only as a result of the early commercial success of ISS-developed products and services will significant demand for use of the resources available on the ISS appear. If this demand should outgrow the capabilities of the ISS, it may eventually lead to the development of additional privately funded orbital facilities such as free-flyers and multi-use business parks. Congress and NASA would be well served to remove the barriers to commercial use of the ISS, and to allow the marketplace time to develop and mature. Doing so would enable the realization of the true potential of the ISS to enhance life on Earth and positively impact the global economy.